

PRODUCTION OF WATER REPELLENT CALCIUM SILICATE BASE FORMING

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PURPOSE: To inexpensively impart water repellency by bringing a calcium silicate base forming into contact with alkoxysilane vapor under vacuum and heating the resulting product.

CONSTITUTION: The calcium silicate base forming is charged into a closed vessel, and the inside of the vessel is evacuated as much as possible, for example to ≤ 400 mmHg. On the other hand, alkoxysilane (e.g. triethoxy methylsilane) is heated in the other closed vessel connected to the closed vessel with the pipe provided with a valve. The heating temp. is 40-70 deg.C and may be lower than the b.p. of the alkoxysilane at atmosphere pressure. When the pipe is opened in this state, because the vessel containing the alkoxysilane becomes to vacuum state, the alkoxysilane is vaporized and allowed to flow into the vessel of calcium silicate forming. A treating time is about 2-5 hour, a rate of absorption is 1-3wt.%. Then after removing unreacted alkoxysilane by blowing steam, the forming is taken out and heated at 100-200 deg.C for 10-60min